

Source: TSG CN WG3
Title: CRs to Rel-5 on Work Item SCUDIF
Agenda item: 8.7
Document for: APPROVAL

Introduction:

This document contains **3 Rel-5 on Work Item SCUDIF**, that have been agreed by **TSG CN WG3**, and are forwarded to TSG CN Plenary for approval.

WG_tdoc	Spec	CR	R	Cat	Title	Rel	C_Ver
N3-040119	23.172	022	2	F	SCUDIF corrections for CAMEL interworking	Rel-5	5.3.0
N3-040120	23.172	023	2	F	SCUDIF corrections for user interaction	Rel-5	5.3.0
N3-040091	23.172	024	2	F	SCUDIF corrections for ISUP/BICC interworking	Rel-5	5.3.0

CHANGE REQUEST

⌘ **23.172** **CR** **024** ⌘ rev **2** ⌘ Current version: **5.3.0** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ SCUDIF corrections for ISUP/BICC interworking		
Source:	⌘ TSG_CN WG3		
Work item code:	⌘ SCUDIF	Date:	⌘ 15.2.2004
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ 1. Long forwarded-to number is not taken into account. 2. The interworking with call forwarding (CF) and call deflection (CD) is unclear
Summary of change:	⌘ 1. Long forwarded-to number2 is added to SRI-ack. 2. Clarifications on CF and CD.
Consequences if not approved:	⌘ 1. Less preferred service would not support long FTN. 2. Ambiguous CF / CD interworking with inter-operability problems.

Clauses affected:	⌘ 2, 4.3.3 and 4.3.6										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N	⌘	X	⌘	X	⌘	X		
Y	N										
⌘	X										
⌘	X										
⌘	X										
Other comments:	⌘										

■ First modified section –

2 References

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- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.153: "Out of Band Transcoder Control; Stage 2".
- [3] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core network protocols; Stage 3".
- [4] 3GPP TS 26.103: "Speech Codec List for GSM and UMTS".
- [5] 3GPP TS 27.001: "General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".
- [6] 3GPP TS 29.007: "General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)".
- [7] 3GPP TS 29.205: "Application of Q.1900 series to bearer-independent circuit-switched core network architecture; Stage 3".
- [8] 3GPP TS 22.101: "Service aspects; Service principles".
- [9] 3GPP TS 33.106: "3GPP Security; Lawful Interception Requirements".
- [10] 3GPP TS 23.018: "Basic Call Handling; Technical realization".
- [11] 3GPP TS 23.003: "Numbering, addressing and identification".
- [12] 3GPP TS 29.232: "Media Gateway Controller (MGC) – Media Gateway (MGW) Interface; Stage 3".
- [13] 3GPP TS 26.102: "Mandatory Speech Codec; AMR Speech Codec; Interface to Iu, Uu, Nb".
- [14] 3GPP TS 23.078: "Customised Applications for Mobile network Enhanced Logic (CAMEL)-; Stage 2".
- [15] [3GPP TS 23.082: "Call Forwarding \(CF\) supplementary services – Stage 2"](#).

-- Next modified section --**4.3 Core Network procedures****4.3.3 Terminating side****4.3.3.1.2 Send Routing Info Ack**

The following elements specific to SCUDIF calls are defined for Send Routing Info Ack:

Information element name	Required	Description
Roaming number 2	C	E.164 number required to route the call to VMSCB (see 3GPP TS 23.003 [11]) for the less preferred service of a SCUDIF call. Shall be present for a SCUDIF call if the preferred service is not forwarded (<i>i.e.</i> either Roaming Number is present or the preferred service is not allowed) and the less preferred service is allowed and not forwarded, otherwise shall be absent.
Forwarded-to number 2	C	E.164 number of the C subscriber for the less preferred service of a SCUDIF call. Shall be present if the HLR has determined that the less preferred service of a SCUDIF call is to be forwarded, otherwise shall be absent.
Long forwarded-to number 2	C	Number of the C subscriber (see 3GPP TS 23.082 [15]) for the less preferred service of a SCUDIF call. Shall be present if the HLR has determined that the less preferred service of a SCUDIF call is to be forwarded, and GMSC and HLR support Long Forwarded-to Numbers, otherwise shall be absent.
Forwarded-to subaddress 2	C	Subaddress of the C subscriber (see 3GPP TS 23.003 [11]) for the less preferred service of a SCUDIF call. Shall be present if the HLR has determined that the less preferred service of a SCUDIF call is to be forwarded and a forwarded-to subaddress is stored in the HLR in association with the forwarded-to number 2, otherwise shall be absent.
Notification to calling party 2	C	Indication of whether the calling party is to be notified that the call has been forwarded if the less preferred service of a SCUDIF call is kept. Shall be present if the HLR has determined that the less preferred service of a SCUDIF call is to be forwarded, otherwise shall be absent.
Forwarding reason 2	C	Indication of why the call has been forwarded (unconditionally or on mobile subscriber not reachable) for the less preferred service of a SCUDIF call. Shall be present if the HLR has determined that the less preferred service of a SCUDIF call is to be forwarded, otherwise shall be absent.
Basic Service Code 2	C	Indicates the type of the basic service for the less preferred service, <i>i.e.</i> teleservice or bearer service.
Allowed Services	C	Shall be present for SCUDIF calls. Indicates which services are available for that call.
Unavailability Cause	C	Indicates the reason for which one of the services of a SCUDIF call is not available. Shall be present for SCUDIF calls if one service is not available.

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4.3.6 Interaction with supplementary services

4.3.6.1 Call forwarding and Call deflection

If ~~a SCUDIF call interacts with~~ CFB(UDUB), CFNRy, or Call Deflection is invoked in a SCUDIF call, and both basic services are provisioned, the handling of the call should continue with the active service negotiated between the called UE and the network.

If ~~a SCUDIF call interacts with~~ call forwarding except CFB(UDUB) and CFNRy is invoked in a SCUDIF call, and both basic services are provisioned, the HLR (for early call forwarding) or VLR (for late call forwarding) shall check the service ~~state shall be checked~~ for both the preferred service and the less preferred service.

Then, the SCUDIF call interacting with call forwarding shall be handled according to the following rules:

- If the call forwarding is active~~applied~~ only for the less preferred service, the preferred service shall be selected and the call setup shall continue with a single service without invoking call forwarding.
- If the call forwarding is active~~applied~~ only for the preferred service, the preferred service shall be selected and call forwarding shall continue with a single service to the destination indicated by the forwarded to number.
- If the call forwarding is active~~applied~~ for both services and the forwarded to number for the preferred service is same as for the less preferred service, the call shall continue as a SCUDIF call to the destination indicated by the forwarded to number.
- If the call forwarding is active~~applied~~ for both services and the forwarded to number for the preferred service is different from that for the less preferred service, the preferred service shall be selected and call forwarding shall continue with a single service to the destination indicated by the forwarded to number for the preferred service.
- If the call forwarding is active~~applied~~ for both services and CF type for the preferred service is different from that of less preferred service, the call shall continue as a SCUDIF call to the destination indicated by the forwarded to number, and the forwarding reason for the preferred service shall be indicated.

NOTE: For Late call forwarding or Call Deflection with Optimal Routing, the second basic service group code shall be generated in VMSC and sent in Resume Call Handling and may be sent in the following Send Routing Information. The preferred service is set as basic service group IE, and the less preferred service is set as basic service group 2 IE.

CR-Form-v7

CHANGE REQUEST

⌘ **23.172 CR 022** ⌘ rev **2** ⌘ Current version: **5.3.0** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ SCUDIF corrections for CAMEL interworking		
Source:	⌘ TSG_CN WG3		
Work item code:	⌘ SCUDIF	Date:	⌘ 17.2.2004
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Interaction with CAMEL Call Party Handling (CPH) is undefined.
Summary of change:	⌘ It is proposed that SCUDIF CPH inter-working and CAMEL UI inter-working are defined in CAMEL stage 1 (22.078). This is to avoid duplicate definitions.
Consequences if not approved:	⌘ Call Party Handling would cause problems.

Clauses affected:	⌘ 2, 4.3.7										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications	Y	N	X			X		X	⌘ 22.078 (N2-040080 and its revisions)	
Y	N										
X											
	X										
	X										
Other comments:	⌘ - CAMEL stage 1 22.078 defines that CPH applies to speech calls only. 22.078 will be clarified more.										

-- First modified section --

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- [14] 3GPP TS 23.078: "Customised Applications for Mobile network Enhanced Logic (CAMEL); Stage 2"
- [xx] [3GPP TS 22.078: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Customised Applications for Mobile network Enhanced Logic \(CAMEL\); Service description, Stage 1".](#)

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4.3.7 Interactions with CAMEL

4.3.7.1 Interaction at call setup

When a SCUDIF call activates a CAMEL dialogue for the originating or the terminating subscriber, both basic services shall be indicated to the gsmSCF in the InitialDP message (see 3GPP TS 23.078 [14]) :

- the bearer capability IE and the ext-basic service code IE shall indicate the preferred service (*i.e.* 3G-324.M if the 3G-324.M codec is the first codec in the list of supported codecs ; speech otherwise),
- the bearer capability 2 IE and the ext-basic service code 2 IE shall indicate the other, less preferred service (*i.e.* resp. speech or 3G-324.M).

4.3.7.2 Interaction at call answer

When the Answer DP is triggered according to the BCSM (see 3GPP TS 23.078 [14]), the event report sent to the gsmSCF shall indicate the result from the OoBTC codec negotiation procedure according to the following :

- the ext-basic service code IE is included, and represents the selected service (indicated by the selected codec) ;
- the ext-basic service code 2 IE is included if the list of available codecs contains codecs both for speech and 3G-324.M, and represents the other service (*i.e.* speech if the selected service is 3G-324.M, and vice-versa).

4.3.7.3 Interaction with Call Party Handling

Interaction with Call Party Handling is allowed, when the call is a speech call and it cannot become a multimedia call.

See 3GPP TS 22.078 [xx] clause 21.

4.3.7.4 Interaction with CAMEL in-band information and user interaction

Interaction with Camel in-band information and user interaction is allowed, when the call is a speech call and it cannot become a multimedia call.

See 3GPP TS 22.078 [xx] clause 21.

CHANGE REQUEST

⌘ **23.172 CR 023** ⌘ rev **2** ⌘ Current version: **5.3.0** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ SCUDIF corrections for user interaction		
Source:	⌘ TSG_CN WG3		
Work item code:	⌘ SCUDIF	Date:	⌘ 17.2.2004
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ User interaction and in-band information is not specified.
Summary of change:	⌘ No In-band information shall be played if the calling terminal in Multimedia mode. If SCUDIF occurs to speech prior to CALL CONFIRMED then in-band information is possible. Otherwise, only if the speech is preferred service, in-band information is possible.
Consequences if not approved:	⌘ User interactions and in-band information may cause confusion on users since they can not be heard.

Clauses affected:	⌘ 4.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N		X		X		X		
Y	N										
	X										
	X										
	X										
Other comments:	⌘										

-- First modified section --

4.3.x User interaction and in-band information

The MSC provided announcements and tones do not work, if the negotiated BC is a multimedia BC. Most often the in-band information is connected to the originating UE but the same rules apply for the terminating UE. The following rules apply:

1. Before sending the CONNECT message the originating MSC may insert in-band information if CALL PROCEEDING message indicates speech as the selected or preferred service. When fallback to multimedia occurs after CALL PROCEEDING but before CONNECT, the MSC may insert in-band information.
2. Before sending the CONNECT message the originating MSC shall not insert in-band information, if CALL PROCEEDING message indicates multimedia as the selected or preferred service. When fallback to speech occurs after CALL PROCEEDING but before CONNECT, the MSC shall not insert in-band information.
3. After the CONNECT message to/from the UE the originating/terminating MSC may insert in-band information, if the selected service is speech. Otherwise, the MSC shall not insert any in-band information. As an option, if the call is to be cleared, the MSC may perform an in-call modification to speech prior to the insertion of the in-band information.
4. During the call setup phase the terminating MSC, transit MSC and GMSC may insert in-band information, if the selected/preferred service received from the originating switch is speech. Otherwise the terminating MSC, transit MSC and GMSC shall not insert any in-band information during the call setup phase.
5. In the active phase of the call the terminating MSC, transit MSC and GMSC may insert in-band information, if the selected service is speech. Otherwise the terminating MSC, transit MSC and GMSC shall not insert any in-band information. As an option, if the call is to be cleared, the terminating MSC, transit MSC or GMSC may perform an in-call modification to speech prior to insertion of the in-band information.